



SECRETARY OF THE ARMY  
WASHINGTON

15 NOV 2017

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Army Directive 2017-29 (Acquisition Reform Initiative #3: Improving the Integration and Synchronization of Science and Technology)

1. References. A complete list of references is at enclosure 1.
2. The purpose of this directive is to improve the integration of science and technology (S&T) into concept, capability, and materiel development. The synchronization of S&T across Army S&T organizations in leveraging industry and academia is essential to meet the needs of the Future Force. S&T efforts must inform the development of capabilities and fully enable the transition of technology. We must link S&T efforts to the mid- and far-term threats and enable improved acquisition outcomes.
3. This directive is a continuation of Army Directive 2017-22. It provides the approach for identifying, refining, and implementing the measures and metrics to assess the effects of the S&T initiatives (enclosure 2). Reviews will be conducted to ensure collected metrics are value-added and lead to optimal acquisition outcomes.
4. I direct the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA (ALT)) to update Army Regulation (AR) 70-1 (Army Acquisition Policy) to:
  - a. acknowledge the designation of Cross-Functional Team (CFT) pilots to execute horizontal and vertical integration that improves the quality and speed of materiel development activities. The CFTs are a bridging solution until the new Modernization Command has achieved initial operating capability.
  - b. develop S&T planning guidance for the S&T appendix to the Army Strategic Plan Modernization Annex in the Army Strategic Plan. (Target: Not later than (NLT) 30 June 2018.)
  - c. develop an overarching Army S&T enterprise strategy, informed by the Deputy Chief of Staff, G-3/5/7 Threat-Based Strategy, and update it annually. (Target: NLT 30 April 2018.)
  - d. conduct a comprehensive S&T portfolio and program review semiannually, or as directed, with the Under Secretary of the Army (USA) and Vice Chief of Staff of the Army (VCSA) in support of the Program Objective Memorandum (POM) that outlines the technology roadmap at the task level. CFTs or the future Modernization Command will recommend prioritization of tasks, and identify underperforming or redundant S&T tasks and recommend divestment, new tasks, or funding adjustments to the USA and

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VCSA, as well as submission to the ASA (Financial Management and Comptroller) for potential realignment of resources. (Target: NLT 30 January 2018.)

e. reestablish and provide resources for the Army Science Conference, pursuant to existing Army conference policy, to promote the collaboration of S&T knowledge across the Army, Department of Defense, industry, academia, and international allies. The conference, which will focus on S&T at the level releasable to the public, will occur every 2 years. (Target: NLT 30 July 2018.)

f. establish an annual technology symposium (Government only), pursuant to existing Army conference policy, with targeted topics to promote information exchange between principal investigators. (Target: NLT 30 April 2018.)

g. direct all U.S. Army Research, Development, and Engineering Command subordinate elements to develop and track S&T metrics to assess organizational performance and effectiveness. (Target: NLT 30 January 2018.)

h. appoint independent S&T representatives as formal technology advisors to the Milestone Decision Authority for all Acquisition Category I, II, and III programs through Milestone B. Advisors will leverage S&T knowledge points at decision forums to provide an independent recommendation for technology readiness levels. (Target: NLT 30 April 2018.)

i. coordinate with U.S. Army Materiel Command; the Office of the Deputy Chief of Staff, G-1; U.S. Army Space and Missile Defense Command; U.S. Army Medical Command; and U.S. Army Corps of Engineers to brief the Army Systems Acquisition Review Council on the results of the acquisition program's technology readiness assessment. The council will verify Technology Readiness Level 6 for all critical technology components. (Target: NLT 30 April 2018.)

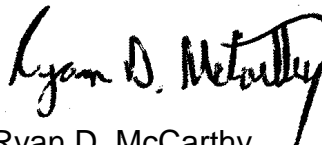
j. coordinate the deliberate, phased implementation of S&T metrics identified in enclosure 2 to assess performance outcomes.

k. report quarterly in a decision brief to the USA and VCSA on S&T metrics, including initial metrics assessment and preliminary metrics results. (Target: NLT 30 April 2018.)

5. The policies in this directive apply to the Active Army, Army National Guard/Army National Guard of the United States, and U.S. Army Reserve.

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6. This directive is rescinded upon publication of these policy changes in AR 70-1.



Ryan D. McCarthy  
Acting

Encls

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CF:

Director, Army National Guard  
Director of Business Transformation  
Commander, Eighth Army

## REFERENCES

- a. Section 1735, Title 10, United States Code, The Defense Acquisition Workforce Improvement Act of 1990.
- b. Section 1741, Title 10, United States Code, Policies and Programs: Establishment and Implementation.
- c. Section 3016b(5)(A), Title 10, United States Code, Assistant Secretaries of the Army.
- d. Section 1122, National Defense Authorization Act for Fiscal Year 2017, Public Law 114-328.
- e. Section 808, National Defense Authorization Act for Fiscal Year 2016, Public Law 114-92, Volume 129 Statute at Large, p. 888–889.
- f. Chief of Staff of the Army, Report to Congress on Linking and Streamlining Army Requirements, Acquisition, and Budget Processes in Response to National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2016, Section 808 (May 2016).
- g. Department of Defense (DoD) Directive 5000.01 (The Defense Acquisition System), May 12, 2003, Certified Current as of November 20, 2007.
- h. DoD Instruction 5000.02 (Operation of the Defense Acquisition System), January 7, 2015; Incorporating Change 1, Effective January 26, 2017 and Change 2, Effective February 2, 2017.
- i. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01I (Joint Capabilities Integration and Development System (JCIDS)), 23 January 2015.
- j. Headquarters, Department of the Army (DA) General Orders No. 2017-01 (Assignment of Functions and Responsibilities Within Headquarters, Department of the Army), 5 January 2017.
- k. Army Directive 2017-22 (Implementation of Acquisition Reform Initiatives 1 and 2), 12 Sep 2017.
- l. Army Regulation 70-1 (Army Acquisition Policy), 16 June 2017.

## LINE OF EFFORT (LOE) 2: SCIENCE & TECHNOLOGY

**Office of Primary Responsibility (OPR):** Office of the ASA (ALT)

**End State:** Innovative projects aligned to strategic guidance with transitions to internal and external customers

**Mission-Critical Measure Areas:** S&T programs aligned to S&T Strategy, S&T resource reprogramming; S&T project technology impact; S&T cooperative research and development agreements (CRADAs), S&T project maturation; S&T project transitions; and S&T innovation.

Table 1-2: Science and Technology Metrics

Level One Measures		Level Two Measures		Metrics	Goal
LOE 2.1	S&T projects aligned to S&T Strategy	LOE 2.1.1	S&T projects aligned to Secretary of the Army/Chief of Staff of the Army priorities	% of S&T projects aligned with Secretary of the Army/Chief of Staff of the Army priorities approved by S&T Advisory Group.	100%
LOE 2.2	S&T resource reprogramming	LOE 2.2.1	S&T resource reprogramming	Amount of the S&T budget reprogramed each year of the POM.	≥ \$300M in POM
LOE 2.3	S&T project technology impact	LOE 2.3.1	S&T disruptive technology	% of planned S&T projects that are disruptive technology.	≥ 50% projects
		LOE 2.3.2	S&T incremental technology	% of planned S&T projects that are incremental technology.	≤ 25% projects
LOE 2.4	S&T CRADAs	LOE 2.4.1	S&T CRADAs with industry and academia	# of CRADAs initiated with industry and academia over the last 12 months.	≥ 20 annually
LOE 2.5	S&T project maturation	LOE 2.5.1	S&T project Technology Readiness Level demonstrations (6.1, 6.2, 6.3)	# of budget activity 6.1, 6.2, 6.3 S&T technology readiness level demonstrations conducted over the last 12 months.	≥ 50 annually
		LOE 2.5.2	S&T prototype demonstrations (6.4)	# of budget activity 6.4 S&T technology demonstrations conducted by an S&T organization over the last year.	≥ 6 annually

Table 1-2: Science and Technology Metrics

Level One Measures		Level Two Measures		Metrics	Goal
LOE 2.6	S&T project transitions	LOE 2.6.1	S&T projects with transition agreement (TA)	# of approved S&T projects with a TA.	≥ 1,000
		LOE 2.6.2	S&T projects with TA or transitioned to external customer	# of S&T projects identified in a TA that transitioned to an external customer in the past last 12 months.	≥ 150 annually
		LOE 2.6.3	S&T projects with TA or transitioned to S&T organization	# of S&T projects identified in a TA that transitioned to an S&T Organization in the past last 12 months.	≥ 300 annually
		LOE 2.6.4	S&T projects without TA	# of S&T projects without TA	< 100
		LOE 2.6.5	S&T projects terminated	# of S&T projects terminated over the last 12 months	≥ 10 annually
LOE 2.7	S&T project innovation	LOE 2.7.1	S&T organization publications	# of papers published in the previous 12 months.	≥ 200 annually
		LOE 2.7.2	S&T organization patent applications	# of patent applications in the previous 12 months	≥ 200 annually
		LOE 2.7.3	S&T organization patents issued	# of patents issued in the previous 12 months	≥ 200 annually
LOE 2.8	S&T project timeliness	LOE 2.8.1	S&T project schedule growth	% of S&T projects with > 10% growth over plan	< 10%
		LOE 2.8.2	Significant S&T project schedule growth	% of S&T projects with > 20% schedule growth over plan	< 5%
		LOE 2.8.3	S&T projects active in > 5 years	% of S&T projects in the S&T Portfolio over 5 years	< 10%
LOE 2.9	S&T project cost	LOE 2.9.1	S&T project cost growth	% of S&T projects with > 10% cost growth over plan	< 10%
		LOE 2.9.2	Significant S&T project cost growth	% of S&T projects with > 20% cost growth over plan	< 5%
LOE 2.10	S&T project performance	LOE 2.10.1	S&T projects meeting their technology objectives	% of S&T projects achieving planned technology objectives	> 90%